

## **Case Study**

# **Module 6: The Upper Midwest**

### **Study Questions**

1. Describe the landscape of the Upper Midwest before European settlement.



2. What were the major factors that led to the historic landscape of the Upper Midwest?
3. Minnesota Geological Survey geologist Carrie Patterson described a glacial moraine (a linear ridge of hills) that forms a geomorphic boundary between landscape features. Drainage on either side of this moraine differs substantially and effects how these areas are managed. East of this boundary, the landscape and its drainage features are geologically young. West of the boundary the landscape features are almost ten times older. Discuss the differences, from a watershed perspective, in the drainage patterns of the "young" watershed versus the "old" watershed.

4. What is the hypoxic or dead zone of the Gulf of Mexico?
5. What are the major factors thought to be contributing to hypoxia?
6. Identify the options available to landowners to minimize the nitrogen leaving their lands.